DIVISION OF WATER POLLUTION CONTROL

NPDES Permit No. TN0077691
Spencer STP
Notice of Determination
August 30, 2002

On April 26, 2002, the Davidson County Chancery Court issued an Agreed Final Judgment regarding the Spencer STP. In that action the court ordered that the effluent line to Dry Fork be disabled. The court also set out certain conditions for allowing Spencer to discharge to Lick Branch. The court also required that the permit be issued for four years during which Spencer find an alternative to the Lick Branch discharge. On November 28, 2001, the Town of Spencer applied for an NPDES permit for the new Spencer Sewage Treatment Plant (STP) to discharge to mile 100 of the Caney Fork River. On May 20, 2002, the division issued Public Notice #MMII-010 which announced the proposed discharge. At the same time, the division issued Public Notice #PH2002-003, which announced a public hearing on the proposed discharge. On June 25, 2002, the division held a public hearing at the Spencer Civic Center. This Notice of Determination (NOD) serves as the division's response to comments before, during and after the hearing and provides the basis for the division's decision.

1. COMMENT: Please conduct an environmental assessment on the effects of this discharge and the proposed 9-mile pipeline. Shouldn't the funding agency conduct an environmental assessment?

   RESPONSE: The division evaluates the environmental effects on receiving waters of any discharge that it allows. The evaluation entails a review of the designated uses and the applicable water quality standards. The discharge must be protective of those uses and standards in order to be permitted. The construction of the pipeline to the discharge point is beyond the scope of the NPDES permit; however, the division would regulate the construction of the pipeline via the aquatic resource alteration permit (ARAP) and the construction stormwater general (CGP) permit. An ARAP permit is necessary when a proposed construction activity will physically change a stream. It requires that the work be done in such a way as to prevent long-term environmental effects and minimize immediate effects. The division requires CGP coverage for all projects that are 5 acres or greater. The permittee must install and maintain adequate erosion prevention and sediment control measures in order to comply with the permit.

   The division anticipates that the Economic Development Administration (EDA) will provide funding for the pipeline. As part of their funding process, EDA requires applicants to perform an environmental review in accordance with NEPA.

2. COMMENT: SOCM has major concerns regarding the potential adverse impacts on the fish and aquatic life of the Caney Fork River and watershed.

   RESPONSE: Any time an NPDES permit is contemplated, protection of fish and aquatic life is always considered. This permit, as all others, is designed to be protective at critical low-flow and temperature conditions, in this case, a water temperature of about 80 °F and an estimated 7-day, 10-year low stream flow of 61 cfs. In contrast, the estimated flow exceeded 50% of the time is approximately 500 cfs. This means that the critical low-flow conditions are not often encountered. This significantly decreases any potential risk for adverse impacts on fish and aquatic life.

3. COMMENT: The division must weigh all beneficial uses and impacts to individual streams and lakes along the pipeline route.

   RESPONSE: See the answer to item 1 above.

4. COMMENT: Considerations for this discharge include physical habitat and water chemistry alteration such as reproductive failure in species from the proposed NPDES permit. Also, the NPDES permit should consider upstream and downstream effects and impacts from the pipeline construction.

   RESPONSE: Domestic wastewater alone is not likely to have potential to affect species reproduction A small amount of research has been done with respect to domestic wastewater and water supplies and disinfection by-products that suggests at least a possible link and recommends more study. However, since Spencer does not chemically disinfect, even that potential link is absent in Spencer's case.

   The division performed Streeter-Phelps modeling to determine appropriate water quality-based effluent limits and also reviewed the discharge history of Great Falls Dam to evaluate any possibility of back-flow. The result is that given the large dilution ratio, Spencer will likely have virtually no effect upstream and only minimal effects downstream.

5. COMMENT: The Caney Fork River already receives chemically treated wastewater from Sparta. The only difference between Spencer and Sparta is that Spencer will discharge directly to the river while Sparta discharges to the Calfkiller River which eventually empties into the Caney Fork River.

   RESPONSE: Both Spencer and Sparta both biologically, rather than chemically, remove organic pollutants (BOD, ammonia) from their respective wastewaters. Spencer differs from Sparta only in the disinfection step, where Spencer uses ultraviolet disinfection while Sparta uses chlorine.

6. COMMENT: What about potential for the NPDES permit to impact climate change?

   RESPONSE: Climate is affected by global, not local factors.

7. COMMENT: Did the division consider other routes to the Caney Fork River?

   RESPONSE: The applicant, not the division, selects the discharge route. An alternate route down Highway 111 was considered. The route to mile 100 was selected to avoid any possible delays associated with TDOT work on Highway 111 and to avoid the nearby water intake.

8. COMMENT: What about long-term human-related impacts on the Caney Fork River?

   RESPONSE: Long-term, human-related impacts on the Caney Fork River are beyond the scope of this permit.

9. COMMENT: Even the small amount of discharge from Spencer will add up over a period of time.

   RESPONSE: The pollutants remaining in Spencer's discharge after treatment (and in compliance with permit limits) are non-conservative. That means that over time they will decay. Therefore, the discharge will not add up over a period of time.

10. COMMENT: Is the outfall at mile 100 or 104.6? Is assessment valid at either?

    RESPONSE: The effluent will discharge at mile 100. The division's assessment included both points.

11. COMMENT: The proposed limitations are not sufficient to protect health of area long-term. Lick Branch limits should be applied. Keep sand filter in-place.

    RESPONSE: The proposed limitations are fully protective of all the designated uses of the Caney Fork River. For more detail, please refer to items 1 and 2. In accordance with NPDES permitting rules, the division must determine both water quality-based and technology-based limitations. The more stringent of the two is applied. In Spencer's case, the water quality-based effluent limit is essentially equal to the technology-based effluent limit. The division has no regulatory justification to set a more stringent limit. In compliance with the Agreed Final Judgment, the hydraulic capacity of the sand filter is 125,000 gpd. Since this permit will allow a discharge of 250,000 gpd, it is likely that the filter would soon be over-loaded and of no benefit.

12. COMMENT: TDEC has not fully evaluated the provisions of 36 CFR § 800. Federal funding necessitates evaluation of these provisions.

    RESPONSE: TDEC is not required to consider and comply with 36 CFR § 800. EDA, the likely funding agency, would be tasked with reviewing and implementing those provisions, as applicable and appropriate.

13. COMMENT: Land application is the best alternative. What about the Lance land? Could the state condemn land for wastewater application?

    RESPONSE: Although land application could be an appropriate long-term solution, it is not necessarily the only one. All alternatives, including land application, for wastewater disposal have some environmental impact. In selecting any alternative, it is important to minimize impact.

    Over the past two years, Spencer investigated the land application alternative. The cost of purchasing land and building the infrastructure was higher than building an outfall to the Caney Fork River. Spencer also looked into using the land offered by Darin Lance contingent upon the land being used as a golf course. However, an inadequate amount of raw land on the Lance property was actually suitable for land application. The state foresaw logistical problems in operating a land application system while constructing a golf course. Finally, during the settlement conference, it was learned that the land was mortgaged.

    The state does not have authority to condemn land for non-state purposes.

14. COMMENT: What about rare, threatened and endangered species?

    RESPONSE: Such species may be present in the watershed. Only aquatic species would have the potential for anything more than incidental contact. The discharge limits are set at levels that are designed to be protective of all aquatic species, including rare, threatened and endangered species. As discussed in item 2, the infrequency of critical, low-flow conditions adds an additional layer of protection of these species.

DETERMINATION

The division's determination is to issue a safe and protective permit to Spencer for the discharge of treated wastewater into the Caney Fork River.

Copies of the final permit are available upon request. Please contact Ms. Kathy Mitchell at (615) 532-0667 or kmitchell@mail.state.tn.us to request a copy of the revised draft permit.

DATE: 8/30/02

Saya Ann Qualls, P.E.
Manager, Permit Section